

What is claimed is:

A sterile disposable apparatus to heat solution comprising:

A protective shock absorbent thermal insulating outer housing;

Such outer housing defining a predetermined number of inner chambers;

5 Such inner chambers contain reactants when intermixed form a at least one prolonged exothermic reaction;

Such inner chambers form a hollow receptacle; and

A self sealing inlet on the outer housing allows instruments to be inserted and submerged in a fluid residing in the hollow receptacle.

10 A sterile disposable apparatus to heat solution as in claim 1, whereas the outer housing is intended to be attached to any surface.

A sterile apparatus for heating liquids comprising:

A shaped protective shock absorbent thermal insulating outer casing;

Such casing containing a multiple of inner chambers;

15 Such inner chambers contain reactants when intermixed form a at least one prolonged exothermic reaction;

Such inner chambers encase a solution receptacle;

A predetermined chemical fluid is injected into the receptacle; and

An instrument is inserted through a self sealing hollow in the outer casing to be

20 submerged in the liquid residing in the receptacle.

A sterile disposable apparatus to heat solution as in claim 3, whereas the outer housing is intended to be attached to any surface.

A sterilized endoscopic scope defogger comprising:

an insulated rigid outer casing;

25 a multiplicity of chambers formed by the side walls of said casing;

such chambers contain exothermic reactive chemicals;

a central chamber formed by the peripheral side wall chambers;

Such central chamber impregnated with defogging solution; and

a cavity within the outer casing to allow the surgical scope to be inserted into the central

30 chamber.

said side wall chambers are breached to create a sustained exothermic reaction thus heating the surgical scope

An endoscopic scope defogger as in claim 5 wherein the distill end of the endoscopic lens is inserted into the cavity, submerged in the defogging solution.

5 An endoscopic scope defogger as in claim 6 wherein the cavity is filled with defogging solution.

An endoscopic scope defogger as in claim 7 wherein the catalyst for the heating reaction is in gel form in order to achieve a time delay reaction.

An endoscopic scope defogger as in claim 8 wherein said outer casing is a shock

10 absorbent.

An endoscopic scope defogger as in claim 9 wherein said outer casing contains an adhesive.

An endoscopic scope defogger as in claim 10 wherein said adhesive is VELCRO.

An endoscopic scope defogger as in claim 10 wherein said outer casing exterior is

15 attached to a wiping cloth.

An endoscopic scope defogger as in claim 10 wherein said wiping cloth is impregnated with a defogging solution.

An endoscopic scope defogger as in claim 10 wherein said endoscopic scope defogger is disposable.

20 An endoscopic scope defogger as in claim 10 wherein said endoscopic scope defogger is compact.

A compact portable sterile scope defogger comprising:

an insulated rigid protective outer casing;

interior of the casing composed of divided compartments;

25 periphery compartments contain a predefined number of chemicals to achieve a multiplicity of exothermic reactions upon breaching of the periphery compartments; central compartment being formed by side walls of the periphery compartments; interior walls of the central compartment filled with defogging solution; and a self sealing cavity in the outer casing to the surgical scope to be inserted into the central chamber to be submerged in the defogging solution.

30 A disposable compact portable sterile scope defogger comprising:

an insulated rigid protective outer casing;

periphery of compartments interconnected with ducts

delicate membrane separating the periphery compartments containing stored chemicals to be breached in order to commence the generation of heat;

5 gas generated upon intermingling of chemicals travel through the ducts to other periphery compartments containing metals which react with the gas to further produce a sustained heat source;

central compartment composed of the exterior side walls of the peripheral compartments allowing conduction of heat to be transferred;

10 inner wall of the central compartment filled with defogging solution; and

a self sealing cavity in the outer casing allowing the scope to be inserted into the central compartment to be submerged in defogging solution.

A disposable compact portable sterile scope defogger comprising:

an insulated rigid protective outer casing;

15 periphery of compartments interconnected with ducts

delicate membrane separating the periphery compartments containing stored chemicals to be breached in order to commence the generation of heat;

gas generated upon intermingling of chemicals travel through the ducts to other periphery compartments containing metals which react with the gas to further produce a sustained

20 heat source;

each membrane retains a different decomposition characteristic;

central compartment composed of the exterior side walls of the peripheral compartments allowing conduction of heat to be transferred;

inner wall of the central compartment filled with defogging solution; and

25 a self sealing cavity in the outer casing allowing the scope to be inserted into the central compartment to be submerged in defogging solution.

A disposable compact portable sterile scope defogger comprising:

an insulated rigid protective outer casing;

periphery of compartments interconnected with ducts

30 delicate membrane separating the periphery compartments containing stored chemicals to be breached in order to commence the generation of heat;

gas generated upon intermingling of chemicals travel through the ducts to other periphery compartments containing metals which react with the gas to further produce a sustained heat source;

each membrane retains a different decomposition characteristic;

5 central compartment composed of the exterior side walls of the peripheral compartments allowing conduction of heat to be transferred;

the central compartment filled with defogging solution; and

a self sealing cavity in the outer casing allowing the scope to be submerged into the defogging solution resident in the central compartment.

10 A compact portable sterile scope defogger comprising:

an insulated rigid protective outer casing;

interior of the casing composed of divided compartments;

periphery compartments contain a predefined number of chemicals to achieve a multiplicity of exothermic reactions upon breaching of the periphery membranes;

15 each membrane retains a different decomposition characteristic;

central compartment being formed by side walls of the periphery compartments;

inner wall of the central compartment filled with defogging solution; and

a self sealing cavity in the outer casing allowing the scope to be inserted into the central compartment to be submerged in defogging solution.

20 A disposable compact portable sterile scope defogger comprising:

an insulated rigid protective outer casing;

periphery of compartments interconnected with ducts

delicate membrane separating the periphery compartments containing stored chemicals to be breached in order to commence the generation of heat;

25 gas generated upon intermingling of chemicals travel through the ducts to other periphery compartments containing metals which react with the gas to further produce a sustained heat source;

chemical reaction catalyst within the compartments is in gel form to achieve a time delayed reaction.

30 each membrane retains a different decomposition characteristic;

central compartment composed of the exterior side walls of the peripheral compartments allowing conduction of heat to be transferred;

the central compartment filled with defogging solution; and

a self sealing cavity in the outer casing allowing the scope to be submerged into the

5 defogging solution resident in the central compartment.

A compact portable sterile scope defogger comprising:

an insulated rigid protective outer casing;

interior of the casing composed of divided compartments;

periphery compartments contain a predefined number of chemicals to achieve a

10 multiplicity of exothermic reactions upon breaching of the periphery membranes;

each membrane retains a different decomposition characteristic;

central compartment being formed by side walls of the periphery compartments;

interior walls of the central compartment being filled with defogging solution; and

a self sealing cavity in the outer casing for the surgical scope to be submerged into the

15 defogging solution of the central chamber.

A disposable compact portable sterile scope defogger comprising:

an insulated rigid protective outer casing;

periphery of compartments interconnected with ducts

delicate membrane separating the periphery compartments containing stored chemicals to

20 be breached in order to commence the generation of heat;

gas generated upon intermingling of chemicals travel through the ducts to other periphery compartments containing metals which react with the gas to further produce a sustained heat source;

chemical reaction catalysts within the compartments are in gel form to achieve a time

25 delayed reaction.

each membrane retains a different decomposition characteristic;

central compartment composed of the exterior side walls of the peripheral compartments allowing conduction of heat to be transferred;

the central compartment filled with defogging solution;

30 electrical wiring embedded within the central compartment conductively connected to a power source to produce additional heating; and

a self sealing cavity in the outer casing allowing the scope to be submerged into the defogging solution resident in the central compartment.

A disposable compact portable sterile scope defogger comprising:

- an insulated rigid protective outer casing;
- 5 periphery of compartments interconnected with ducts delicate membrane separating the periphery compartments containing stored chemicals to be breached in order to commence the generation of heat; gas generated upon intermingling of chemicals travel through the ducts to other periphery compartments containing metals which react with the gas to further produce a sustained
- 10 heat source;
- chemical reaction catalysts within the compartments are in gel form to achieve a time delayed reaction.
- each membrane retains a different decomposition characteristic;
- central compartment composed of the exterior side walls of the peripheral compartments
- 15 allowing conduction of heat to be transferred;
- the central compartment filled with defogging solution;
- electrical wiring embedded within the central compartment conductively connected to a power source to produce additional heating;
- AC recharger base to electrically receive the compact portable sterile scope defogger to
- 20 power the electrical heating; and
- a self sealing cavity in the outer casing allowing the scope to be submerged into the defogging solution resident in the central compartment.

A method to defog a surgical scope comprising:

- inserting the scope within a protective compact insulated container;
- 25 having the scope submerged in defogging solution contained in the central compartment; breaching the compartments of the peripheral compartments allowing catalyst to react with substrate producing a sustained exothermic reaction;
- having the scope being in conductive contact with the heat generating chambers;
- reinserting the scope within the container as needed during a procedure; and
- 30 utilizing the container as a holster for the surgical scope.

A method to defog a surgical scope comprising:

- inserting the scope within a protective compact insulted container;
- having the scope submerged in defogging solution in a central compartment;
- heating the central compartment;
- having the scope being in conductive contact with the heat generating chambers;
- 5 reinserting the scope within the container as needed during a procedure; and
- utilizing the container as a holster to protect the endoscopic scope.